1 Purpose

This document establishes requirements for managing all fluid transfers (fuel, drilling fluids, waste oil, water, etc.) onboard Noble vessels; with the aim that no spills and no unplanned transfers of fluids occur. These operations are to be conducted in a deliberate and structured manner.

2 Scope

These requirements apply to all Noble MODUs. They apply to all fluid transfers conducted on Noble facilities.

3 Definitions

As Low as Reasonably Practicable (ALARP): A philosophy used in risk assessment and mitigation.

Fluid Transfer: The act of moving a quantity of fluid from one location to another within the Primary Containment System.

Loss of Primary Containment (LOPC): An unplanned or uncontrolled release of any fluid from primary containment, including non-toxic and non-flammable materials (e.g. drilling and completion fluids, fuel, oil, water, hydraulic fluid, sludge, bilge water, etc.).

Piping and Instrumentation Diagram (P&ID): A schematic illustration of the functional relationship of piping, instrumentation and system equipment components.

Person in Charge (PIC): The person in overall command of the facility. On DP vessels, this is the Master. On vessels without a Master this is the OIM.

Primary Containment: A tank, vessel, pipe, hose or other equipment intended to serve as the primary container or used for processing or transfer of material. This includes temporary pipework and hoses.

Mud System: Defined as the mud pits, well, flow line, shaker house, sand traps, mud pumps, mixing lines and standpipes.

Risk tolerance: Describes the criteria used to reach a decision about whether to perform an operation.

Secondary Containment: Exists to contain or control a release from primary containment. Secondary containment systems include, but are not limited to tank dykes, combing around process equipment, drainage collection systems, the outer wall of double walled tanks, etc.

Spill: Fluid discharged to the environment as a result of a Loss of Primary Containment. Examples include: slip joint packer leaking mud to sea, hose bursting during bunkering operations, valve misalignment leading to mud on deck. A spill does not exclusively refer to fluid entering the sea.

4 Requirements

4.1 Risk Tolerance

The hazards involved with fluid transfers shall be reviewed and mitigated before initiating a transfer. In many cases this takes the form of a JSA. However, in specific cases where the transfer requires a Permit to Work, a formal risk assessment shall be conducted. These cases are identified in Appendix A.

In that formal risk assessment, if a spill to sea is identified as a hazard, the transfer can only be approved where the mitigations in place reduce the residual risk potential severity to *negligible* as defined in Incident and Unplanned Event Management Policy, HSE _3060.0

4.2 General Requirements

In order to carry out fluid transfers in a deliberate and structured manner, all fluid transfers must be planned prior to beginning the operation. An ongoing transfer shall be monitored to ensure that the operation is creating the expected results. Where appropriate after a transfer, ensure that lessons learned are captured in future operations by updating WIMs and JSAs.

At all times Noble employees must comply with all relevant local and international statutes. Any planned transfer of a regulated fluid or using a regulated containment system shall be scrutinized with this in mind prior to approval. Any questions shall be answered in consultation with appropriate authorities or Noble Subject Matter Expert (SME) before allowing the operation to proceed.

4.2.1 Planning

A suitable plan for a fluid transfer will include the following items:

- Reason for the transfer.
- Parameters of the transfer; type of fluid, volume to be transferred, original location, destination and capacity available in destination.
- JSA/WIM for the proposed operation and verification that all required mitigations are in place. Some transfers require formal risk assessment. These are noted in Appendix A – Table of Fluid Transfers.
- Marked up schematic diagram of the fluid path to be used and verification that there are no outstanding maintenance issues which may affect the planned route. This diagram shall show a highlighted flow path and clearly indicate on all valves adjacent to or part of the flow path whether they will be in the open or closed state. See the example diagram in Appendix B.
- Consideration given to how the operation will be monitored and what actions will be taken if the operation does not go as planned.
- Ensure that the personnel assigned to complete the transfer possess appropriate knowledge, skills and abilities to carry out the task successfully.

As an aid to transfer planning, the Fluid Transfer Checklist must be completed. Completed checklists shall be stored onboard the vessel for a period of three months.

4.2.2 Approval

Some fluid transfers require approval under the permit to work system. Appendix A – Table of Fluid Transfers identifies these cases. For fluid transfers requiring permit to work approval, the appropriate approver is given in the same table. In all cases, a checklist must also be used.

The PIC shall satisfy that the requirements in this policy have been followed before allowing the transfer to begin.

4.2.3 Execution of Plan and Monitoring

Much like creating a plan, executing a plan must be done in a structured manner. The steps below outline the requirements for execution of plan:

- Hold pre-job meeting to discuss the operation and responsibilities with all personnel involved. This shall include a review of the JSA/WIM, Risk Assessment and plan for the job.
- Align valves, pumps and other equipment as directed by the plan. This lineup shall be a physically walked down by SME, who is to consult the marked up schematic diagram to confirm the lineup. Physical verification must confirm that a valve has fully actuated to the desired position.
- Visually inspect lines and hoses to ensure that no physical defects are evident.
- Independent secondary verification of the lineup must take place. This is to be done by a different person after the lineup has been made, but before the transfer begins. The verification can be made either by physically walking down the line, or, by tracing the lineup on a dedicated computerized fluid monitoring system, if available.
- All fluid transfers must be monitored. This monitoring shall establish that fluid is moving only from the desired location and being received only at the intended location. This shall be established as soon as possible after beginning the transfer. Computerized fluid monitoring systems may be used, if present, to monitor a transfer.
- Special attention shall be paid to tank vents where the tank is being filled to greater than 80% of its capacity. Refer to rig operations manual for maximum allowable tank capacities.
- Upon completion of the transfer operation, all lineups shall be restored to the offline state. The offline state of all valves is to be their normally operated position, typically closed.
- If at any time during the operation an event occurs that deviates from the plan or expected results, the operation must be stopped. The circumstances surrounding the unexpected event must be examined and accounted for in an updated plan which must be reapproved to the same level as the initial plan. Any such work stoppages shall be recorded to collect lessons learned.

4.2.4 After Action Review

Following completion of the Fluid Transfer operation, time shall be taken to review any lessons learned. These findings shall be incorporated into future operations by updating JSAs, WIMs, handover notes and other communication as necessary.

4.3 Specific Requirements

4.3.1 Planned Discharge to Sea

Per Appendix - A fluids which will be intentionally discharged overboard must be authorized in writing by the PIC of the facility. This means that the PIC will be the Permit to Work approver. The PIC may not delegate this authority. Such discharges shall be undertaken only in accordance with all applicable regulations and permits. Whenever possible, planned discharges to sea should take place during daylight hours. When required to discharge in darkness, the Risk Assessment shall include appropriate mitigations such as ensuring sufficient lighting (near daylight conditions) for leak observations.

A watch must be posted to monitor the discharge point during the transfer. Upon detecting any sheen, the job shall be stopped immediately and the issue shall be reported to the PIC.

4.3.2 Fluid Transfers to/from another Vessel

Any fluid which will be transferred to or from a Noble vessel to or from any other vessel must be authorized in writing by the PIC of the facility. This means that the PIC will be the Permit to Work approver. The PIC may not delegate this authority. Whenever possible, planned transfers of mineral or petroleum based fluids between vessels should take place during daylight hours. When required to discharge in darkness, the Risk Assessment shall include appropriate mitigations such as ensuring sufficient lighting (near daylight conditions) for leak observations.

A watch must be posted to monitor the hose and sea during the transfer. Upon detecting any sheen, spill or other loss of primary containment, the job shall be stopped immediately and the issue shall be reported to the PIC.

For fuel oil, oil base mud or base oil transfers, hoses must be changed out annually.

> **WARNING**: Per OEM recommendation, do not pressure test these hoses after being placed in service, as testing may damage hose liner.

4.4 Golden Rules for Fluid Transfers

4.4.1 All fluid transfers must have two step independent verification of the lineup to be used. At least one verification will be of the physical lineup and valve positions by walking the line.

4.4.2 Schematic diagrams shall be used to plan lineups. They must be marked up and reviewed prior to every fluid transfer. Marked up means to highlight the flow path to be used and to clearly mark all valves which must be opened or verified to be closed.

4.4.3 Each rig must maintain up to date schematic diagrams of all fluid systems. These can be P&IDs or other approved schematic diagrams.

4.4.4 Ongoing transfers over shift change shall be stopped until handover is conducted at the work site with all parties involved. The fluid transfer checklist shall be used as part of the handover. Reliefs shall verify the checklist, review the JSA and renew any permits. They shall add their signature to accept the handover of responsibility for the ongoing transfer.

4.4.5 Observe the expected results of a transfer – pressure in lines, returns, tank gauges, etc. Every transfer, at a minimum, is a two man operation; one person initiating the transfer and the other(s) confirming successful discharge in the correct location, monitoring tank vents, etc.

4.4.6 All valves not immediately in use shall be in the fully closed position except where required to be open under law. Valves shall be closed immediately when a transfer is complete. Special notice will be taken of valves controlled under the Environmental Tag System (ETS) HSE_9367.0.

4.4.7 All transfers requiring a permit to work must have a formal risk assessment attached, using the Risk Assessment form MSC_2121.0.

4.4.8 All transfers must have a completed checklist.

4.4.9 All paperwork associated with permit controlled transfers shall be kept with the permit for the period the permit is retained, as defined in DRS_3240.0.

4.4.10 All secondary containments along the flow path of the planned transfer shall be verified prior to initiating a fluid transfer.

4.4.11 When making a planned discharge to sea from the liquid mud system or other transfer operations must be approved by the PIC under the permit to work system. Consult Appendix A. Master Dump Valves must be closed and locked out immediately when the transfer is complete.

4.5 Loss of Primary Containment

The following sections govern the actions to be taken in the event of a loss of primary containment.

4.5.1 The ongoing transfer shall be stopped immediately when safe to do so, otherwise as soon as possible.

4.5.2 Personnel involved in the transfer shall notify their supervisor and assess the extent of any spill.

4.5.3 Spills to sea shall be reported to the PIC immediately.

4.5.4 Spills contained within secondary containment shall be reported to the PIC in a timely manner.

4.5.5 A record shall be kept of any loss of primary containment detailing:

- Type of fluid released.
- Volume of fluid released.
- Where the fluid was released from and to.

- Actions taken to manage the released fluid.
- This record will be documented in accordance with the Incident/Unplanned Event Management Policy, HSE_3060.0

5 Responsibilities

PIC: Overall responsibility for ensuring that all crew members are working in accordance with this policy.

Rig Manager, Assistant Rig Manager, Chief Mate, Chief Engineer, Rig Maintenance Supervisor, Senior Subsea Engineer, Derrickman and Barge Engineer: Responsible for ensuring that fluid transfers occurring within or between their departments are in accordance with this policy.

6 References

Fluid Transfer Checklist, DRS_8222.4

Incident and Unplanned Event Management, HSE_3060.0

Permit to Work, DRS_3240.0

Risk Assessment Procedure, MSC_2110.0

Risk Assessment Form, MSC_2121.0

Environmental Tag System, HSE_9367.0

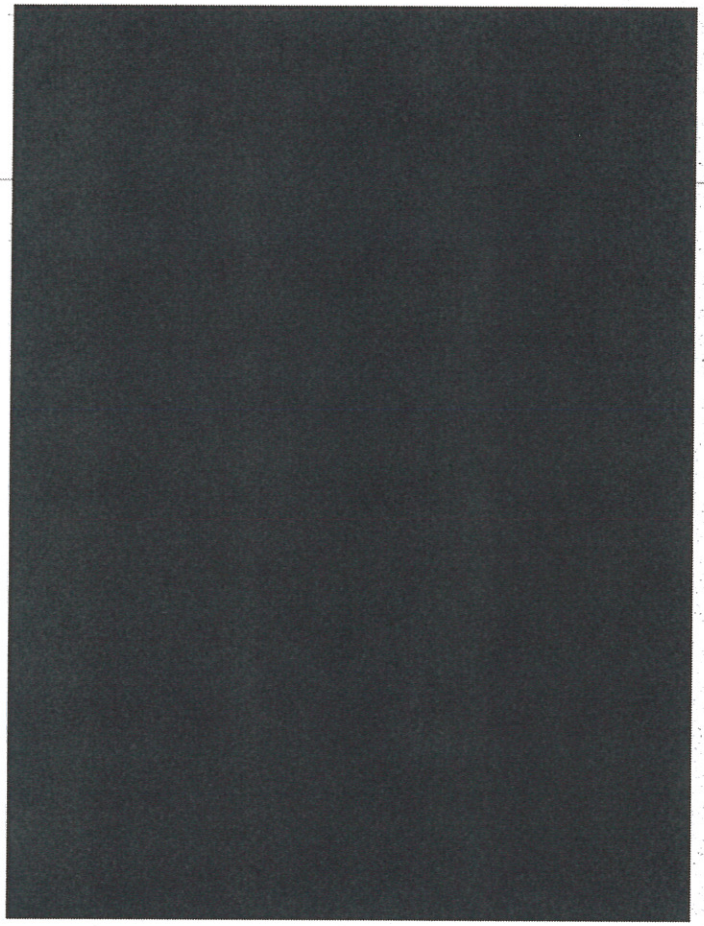
7 Appendix A – Table of Fluid Transfers

#	Transfer	Type	PTW and Formal Risk Assessment Required?	PTW Approver
1	OWS Discharge	Overboard	No	N/A
2	Liquid Cement	Overboard	Yes	PIC
	Dry Bulk	Overboard	Yes	PIC
3	Cement Spacers	Overboard	Yes	PIC
4	Frac Job (Sand)	Overboard	Yes	PIC
5	Continuous Grey Water	Overboard	No	N/A
6	Rain Water/Deck Drains	Overboard	No	N/A
7	Sea Water/Ballasting	Overboard	No	N/A
8	Sea Water/Fire Stations	Overboard	Yes	PIC
	Sea Water/Cooling	Overboard	No	N/A
9	Pit Wash Water	Overboard	Yes	PIC
10	Treated Sewage Water	Overboard	No	N/A
11	Dry Bulk	Internal	No	N/A
12	Base Oil	Internal	No	N/A
13	Bilge Water to Bilge Holding Tank	Internal	No	N/A
14	Bilge Water directly to Dirty Oil	Internal	Yes	PIC
15	Brine	Internal	No	N/A
17	Drill Water	Internal	No	N/A
18	Fuel Internal Transfer Tank to Tank	Internal	No	N/A
19	Fuel to Emergency Generator	Internal	Yes	PIC
20	Fuel to Lifeboat or Fast Rescue Craft	Internal	Yes	PIC

#	Transfer	Type	PTW and Formal Risk Assessment Required?	PTW Approver
21	Fuel to Third Party Equipment	Internal	Yes	PIC
22	Helifuel to Helicopter	Internal	No	N/A
	Helifuel	Internal	Yes	PIC
23	Lube Oil to Emergency Generator	Internal	Yes	PIC
24	Lube Oil to Engine	Internal	No	N/A
25	Pollution Pan Liquids	Internal	No	N/A
26	Potable Water to Drill Water	Internal	No	N/A
27	Salt Water	Internal	No	N/A
28	Sea Water/Ballasting	Internal	No	N/A
29	Mud	Internal	No	N/A
30	Thruster Oil to Dirty Oil	Internal	Yes	PIC
32	Dry Bulk	External	Yes	PIC
33	Base Oil	External	Yes	PIC
34	Brine	External	Yes	PIC
36	Dirty Oil to Tote	External	Yes	PIC
37	Fuel	External	Yes	PIC
39	Liquid Mud	External	Yes	PIC
40	Lube Oil Tote to Lube Oil Storage Tank	External	Yes	PIC
41	Potable Water	External	Yes	PIC
42	Slops to Tote Tanks	External	Yes	PIC
44	Pit Wash Water	External	Yes	PIC

8 Appendix B – Flow Path Diagram Example

This example diagram clearly shows flow path and open valves in green. Closed valves are marked with an 'X' in orange.



SEVERN TRENT DE NORA

1110 Industrial Boulevard
Sugar Land, Texas 77478
(281) 240-6770 Phone
(281) 240-6762 Fax

OMNIPURE™ SEACLOR™ SANILEC™

SERVICE REPORT

Customer Number: Noble

Bill To:

Ship To:

Service Order Number:

Date: 5-6-15

P.O.No.:

Requested By:

Telephone:

S/N 13-5554-00 [illegible]

Model: 55-56

Voltage: 450

Vessel/Project: Noble Discoverer

Service Required: Annual Inspection

Location: [illegible]

Contact: [redacted]

Date Wanted: 5-6-15

Telephone: [redacted]

Date Out: 5-5-15 Date In: 5-8-15

Service Performed: Traveled [illegible] and performed annual inspection on 13-5554-00 [illegible] [redacted] unit. Then [illegible] while adjusting unit [illegible] and [illegible] were in normal range. Then [illegible] and return to shop.

NOBLE DISCOVERER
MONROVIA
IMO: 6608608
GRT: 14057
NRT: 4215
HP: 8690

Customer: [redacted] 6-June-15

Service Rep.: [redacted] 5-8-15

SEVERN
TRENT
DE NORA

Service Time Sheet

Engineer/Technician: [redacted]

Service Order Number: Po [redacted]

Customer: Noble

Vessel / Project: Noble Discoverer

Day No.	Date	Straight Time Hours	Overtime Hours	Remarks
1	6-5-15	8		Travel from LA to Washington State
2	6-6-15	12		Board to Drill ship & Annual inspection on 5556
3	6-7-15	8		Flight to LA from Washington 12pm departure
4	6-8-15	8		Travel to ship [illegible]

[redacted] 6/6/15

Service Representative

NOBLE-DISCOVERER
MONROVIA
IMo : 6608608
GRT: 14051
NRT: 4215
HP : 8690

[redacted] 6-June-15

Customer Representative

Page 1 of 1

DISTRIBUTION: White - Accounting Yellow - Customer Service Pink - Service Department Gold - Customer Representative

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[redacted] Inspection Form

Severn Trent De Nora
1310 Industrial Blvd
Sugar Land, Texas 77478
United States

T: +1 281 240 5770
F: +1 281 240 5782

Tech./Inspector [redacted]
Date of Inspection 6-6-17
Vessel/Project [redacted]
Client/Owner [redacted]
Client's Contact
Unit Model # [redacted]
Unit Serial# [redacted]

General

Vessel Location
Units Location on Vessel
Cleanliness / Housekeeping

Paint Integrity

	Heavy Rust	Light Rust	Repaint	Touch up	OK	
Skid					/	See note #
V-1 Tank					/	See note #
Settling Tank					/	See note #
Clarifier Tank					/	See note #
Main Transformer					/	See note #
Macerator Pump Motor - s					/	See note #
Stirring Pump Motor - s					/	See note #
Overboard Pump Motor - s					/	See note #
Blower Pump Motor - s					/	See note #
Control Panels					/	See note #

Tank integrity

	Leaking	Note, Source of Leak
V-1 Tank	Y N	
Settling Tank	Y N	
Clarifying Tank	Y N	
De-Fome Tank	Y N	
De-Clor Tank	Y N	
Polymer Tank	Y N	
Piping	Y N	

Injection Pumps

		Leaking	Operating	Stroke Length	Frequency	
De-Clor Pump	N/A	Y N	Y N	[redacted]	[redacted]	See note #
De-Fome Pump		Y N	Y N	[redacted]		See note #
Polymer Pump	N/A	Y N	Y N	Per Min Stroke=		See note #

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SEVERN TRENT DE NORA

[redacted] Inspection Form

Severn Trent De Nora
1113 Industrial Blvd
Sugar Land, Texas 77478
United States
T: +1 281 240 6779
F: +1 281 240 6782

Tech./Inspector [redacted]
Date of Inspection 6-1-15
Unit Serial# [redacted]

General Housekeeping

Average # of Personal 5+ Type of Water Black X Gray X

Maintenance Frequency Bookcell # of Days 7 EC-Cell # Days 7 "Y" Strainer # days 7

Bookcell Clean Y N EC-Cell Clean Y N "Y" Strainer clean Y N See note #

Maintenance Notes;

Motors

	Turns free	Rotation correct	Oil Level ok	Coupling ok	Amps L1	Amps L2	Amps L3	See note #
Macerator Pump/Motor #1	Y N	Y N	Y N	Y N	1.6	1.7	1.5	
Macerator Pump/Motor #2 N/A	Y N	Y N	Y N	Y N	1.7	2.1	1.7	
Recirculation Pump/Motor V1 #1	Y N	Y N	Y N	Y N	1.7	1.8	1.7	
Recirculation Pump/Motor V1 #2 N/A	Y N	Y N	Y N	Y N				
Transfer Pump/Motor #1 N/A	Y N	Y N	Y N	Y N				
Transfer Pump/Motor #2 N/A	Y N	Y N	Y N	Y N				
Air Blower/Motor #1	Y N	Y N			1.1	1.4	1.3	
Air Blower/Motor #2 N/A	Y N	Y N						
Overboard Pump/Motor #1 N/A	Y N	Y N			6.1	6.3	6.1	
Overboard Pump/Motor #2 N/A	Y N	Y N			6.1	6.6	6.5	
Solids trans. Pump/Motor N/A	Y N	Y N			1.9	1.1	1.0	
Polymer Stirring Motor N/A	Y N	Y N						
De-Clor Stirring Motor N/A	Y N	Y N			.5	.7	.6	

Motor Notes,

Valves

	Operating		Operating		Operating
Bookcell auto Reversing n/a	Y N	Holding Tank Transfer n/a	Y N	Clarifier Tank Dump #3	Y N
EC cell auto Blow Down	Y N	Return from Solids Skid n/a	Y N	Bookcell Drain	Y N
Bookcell Supply	Y N	Settling Tank Dump	Y N	Bookcell Backwash n/a	Y N
V1 Return	Y N	Clarifier Tank Dump #1	Y N	EC Air & Water Backwash	Y N
Seal Flush e-valve	Y N	Clarifier Tank Dump #2	Y N	Sea Water Supply	Y N

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SEVERN TRENT DE NORA

[redacted] Inspection Form

Tech./Inspector [redacted]

Date of Inspection 6-2-15

Unit Serial# [redacted]

Severn Trent De Nora
1210 Industrial Blvd.
Sugar Land, Texas 77478
United States
T +1 281 240 9773
F +1 281 240 9732

Note #

Vents

Atmospheric Vents....Clear	Y N	Solids -Jars....clear n/a	Y N		
Positive Vent Clear.....operating	Y N	Air Flow Meter....operating	Y N		
Level Indicators.....operating		V1 or Holding Tank	Y N	Clarifier Tank	Y N

Electrical

Phasing, check one	3 Phase				1 Phase	See Note
Voltage Main	H1 - H2	[redacted]	H2 -H3	[redacted]	H1 -H3	[redacted]
Voltage Main	H1 to gnd.	[redacted]	H2 to gnd.	[redacted]	H3 to gnd.	[redacted]
Hertz	50 hz				60 hz	
Amperage.....unit running	H1	[redacted]	H2	[redacted]	H3	[redacted]

Main Rectifier Transformer

Bookcell Volts Secondary	X1 - X2	[redacted]	X2 - X3 n/a	[redacted]	X1 - X3 n/a	[redacted]
Bookcell Volts Secondary	X 1 to gnd.		X2 to gnd.		X 3 to gnd. n/a	
Bookcell Amps Secondary	X 1		X 2		X 3 to gnd.n/a	
EC Volts Secondary	Y1 - Y2		Y2 - Y3 n/a		Y1 - Y3 n/a	
EC Volts Secondary	Y1		Y 2		Y3 n/a	
EC Amps Secondary	Y 1		Y 2		Y 3 n/a	
Control Transformer	H1 - H2		X1 - X2		Amps secondary	

Direct Current (DC)

Note: Bookcell Balance shal be less then 10%

Bookcell DC Hertz	100hz	120hz	other	150hz	180hz
EC Hertz	100hz	120hz	other	150hz	180hz
Bookcell Volts	[redacted]		EC Volts, Prox.		[redacted]
Bookcell Amps			EC Amps		
Bookcell Amps Pass 1	n/a		Bookcell Amps, Pass 2 n/a		
{(valu1/valu2) / (valu1+valu2)}*100		)/(	n/a *	100 =	

Alarms, operating

Sewage flow, Low flow	Y N	DeClor Not in Service n/a	Y N	Setelling Tank Purge Air Blower	Y N
Bookcell Imbalance n/a	Y N	Supply Air	Y N	Trip all Motor Starters	Y N
De-clor Pump Not in Service n/a	Y N	V1 Tank High Level	Y N	Solids Collection Not in Service n/a	Y N
Purge Solids Cont. Pnl. n/a	Y N	Purge Omnipure C. Pnl. n/a	Y N	Purge De-clor Cont. Pnl. n/a	Y N

OMNIPURE

[redacted] Inspection Form

Tech./Inspector [redacted]
Date of Inspection 8-2-15
Unit Serial# [redacted]

Severn Trent De Nora
1113 Industrial Blvd.
Sugar Land, Texas 77478
United States

T: +1 281 340 2777
F: +1 281 240 6752

Piping / Flow

V1 Suction Valve Leaking	Y (N)	Handle present	Y N	#	
Return Valve leaking	Y (N)	Flow Valve to Bookcell Leaking	Y N	#	
Flow controller Present	Y (N)	"Y" Stranger Clean	Y N	#	
Orifice, Macerator Present	Y N	Size	1/2	#	
Orifice, Flow Present	Y N	Size	1/2	Change Size n/a	
Orifice, Return Present	Y N	Size	1/2	Change Size n/a	
Flow 5.1 Lt. P M		Flow After Change n/a	Size Unit [redacted]	Flow Corect	Y N

Bookcell

Opened	Y N	Door "O" Rings Plyable	Y N	Retaning Screws Present	Y N
Bolts all Present	Y N	Cathode Pate Smoth & Clean	Y N	# Of Retain Screws Missing	
Bolt Retaning "O" Rings Prez.	Y N	Anode Plate Smoth & Clean	Y N	Grounding Target #1 Intact	Y N
Inserts OK	Y N	Bi-Polor Plats Smoth & Clean	Y N	Grounding Target #2 Intact	Y N

EC - cell

Opened	Y N	"O" Rings Plyable	Y N	Grounding Target #1 Intact	Y N
Ram & Hyd. Pump Servicable	Y N	SS. Plates Cleaned	Y N	Grounding Target #2 Intact	Y N
Elements In Order	Y N	SS. Plates Pitted or Aged	Y N	Terminal Conection Good	Y N

Individual Unit Readings and Measurements

Unit size	5503	5505	5508	5513	5528	5538	5556	5565
Bookcell Volts	55	55	65	65	65	65	120	120
Bookcell Amps	11	13	13	50	50	50	50	50
E C Volts aprox	9	18	27	32	36	38	40	47
E C Amps	10 to 20	10 to 20	10 to 20	10 to 20	10 to 20	10 to 20	10 to 20	10 to 20
Sodium Sulfite kg	1.2	2.4	2.8	3.1	3.8	4.3	4.9	5.4
DeFoam ml	13	26	39	65	130	195	259	310
Flow Rate + -								

Alarms, Operating

Sewage flow, Low flow	Y N	DeClor Not in Service n/a	Y N	Stealing Tank Dilution Air Blower	Y N
Book cell Imbalance n/a	Y N	Supply Air	Y N	Trip all Motor Starters	Y N
De-clor Pump Not In Service n/a	Y N	V1 Tank High Level	Y N	Solids Collection Not In Service n/a	Y N
Purge Solids Cont. Pnl. n/a	Y N	Purge Omnipure C. Pnl n/a	Y N	Purge De-clor Cont. Pnl n/a	Y N

OMNIPURE

Tech./Inspector [redacted]
Date of Inspection
Unit Serial# [redacted]
Note #

Notes

Severn Trent De Nora
Sugar Land, Texas 77478
United States

General Notes

Parts Needed Commition ☐ Anual Inspection ☐ Repair ☐

Qt.	Item Discreption	Part #

Costmer: [redacted] NOBLE DISCOVERER
MONROVIA
IMO : 9608808
GRT: 44054
NRT: 4216
HP : 8390
Date 6-30-15

Date 6/12/15

Bookcell Balance Formula

	1.0161943						
Bookcell Amps Pass 1	49.8	25.1		Bookcell Amps, Pass 2			24.7
{(valu1/valu2) / (valu1+valu2)}*100		1.0161943	)/(	49.8	*	100 =	2.04